# Module Description

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| **Module name** | Course Module |
| **Module level, if applicable** | Master of Physics Education |
| **Code, if applicable** | 30061052 |
| **Subtitle, if applicable** | - |
| **Course, if applicable** | Science Philosophy |
| **Semester(s) in which the module istaught** | I (Odd semester) |
| **Person responsiblefor the module** | Lecturer of Courses |
| **Lecturer** | 1. Prof. Dr. Sunaryo |
| **Language** | Indonesian Language [Bahasa Indonesia] |
| **Relation to Curriculum** | This course is a general course and offered in the 1st semester. |
| **Type of teaching, contact hours** | Teaching methods used in this course are:<br>- Lecture (i.e., group investigation, small group discussion, case study, case-based learning, cooperative learning, and blended learning.)<br>- Structured assignments (i.e., essays and case studies)<br><br>The class size for the lecture is 20 students.<br>Contact hours for lecture is 26.67 hours, assignments are 64 hours, and privat study is 64 hours. |
| **Workload** | For this course, students required to meet a minimum of 154.67 hours in one semester, which consist of:<br>26.67 hours for lecture,<br>64 hours for structured assignments,<br>64 hours for private study, |
| **Credit points** | 5.2 ECTS |
| **Requirements according to the examination regulations** | Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final examination. |
| **Recommended prerequisites** | Students should have attended all lectures and submitted all scheduled individual and group assignments prior to the final |

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| | examination. |
| **Program learning outcomes** | PLO 1 Able to develop logical, critical, systematic, and creative thinking through scientific research in the field of physics education.<br>PLO 2 Master advanced knowledge of classical physics and modern physics<br>PLO 4 Able to develop learning aids by utilizing advanced information technology and the student environment. |

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| **Content** | **Students will learn about:**<br>The aim of this course is to increase students' understanding of the philosophy of science. Topics covered include: the notion of philosophy, philosophy of science, understanding of science, branches of philosophy, aspects of knowledge (ontology, epistemology, axiology), the concept of truth, science and religion, scientific truth, scientific method, means of scientific thinking, logic and reasoning, characteristics of scientific knowledge, and the relationship between science and morals. Lectures will be conducted using an inquiry-based learning approach. Through this lecture, it is hoped that students will assist students in increasing knowledge in scientific fields and quality research. |
| **Forms of Assessment** | Assessment of the learning process follows the following components: attendance 5%; assignments and presentations 30%; mid-test 30%, and final-test 35%. |
| **Study and examination requirements** | **Study and examination requirements:**<br>- Students must attend 15 minutes before the class starts.<br>- Students must switch off all electronic devices.<br>- Students must inform the lecturer if they will not attend the classdue to sickness, etc.<br>- Students must submit all class assignments before the deadline.<br>- Students must attend the exam to get final grade.<br><br>**Form of examination:**<br>Forms of examination: project, presentation, and written exam. |
| **Media employed** | Powerpoint slides, simulation videos, learning management system (LMS), ZOOM application, and UNJ e-learning. |

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| **Reading list** | 1. Alex Rosenberg and Lee McIntyre (2020) Philosophy of Science A Contemporary Introduction, Fourth Edition. Routledge.<br>2. Hans Halvorson (2019) The Logic in Philosophy of Science, Cambridge University Press<br>3. Immanuel Kant (2015) Critique of Practical Reason, Cambridge University Press.<br>4. Noeng Muhajir (2011) Filsafat Ilmu: Ontology, Epistemology, Axiology, Yogyakarta: Rake Sarasin. |